

WHAT IS CLAIMED IS:

1. Apparatus for recovering water for an electrical/fuel-cell system in a vehicle, wherein a cooling circuit of one of a vehicle radiator and a vehicle air-conditioning system is coupled via a heat exchanger to at least one exhaust-gas stream of the electrical/fuel-cell system.

2. The apparatus according to Claim 1, wherein the exhaust-gas stream of the electrical/fuel-cell system comprises at least one of an anode exhaust-gas stream, and a cathode exhaust-gas stream and an exhaust-gas stream from a gas generation system.

3. The apparatus according to Claim 1, wherein a condensate trap is arranged downstream of the heat exchanger in the exhaust-gas stream or streams.

4. The apparatus according to Claim 1, wherein the cooling circuit contains a pump that allows circulation of the coolant of the cooling circuit.

5. The apparatus according to Claim 1, wherein the cooling circuit can be coupled to at least one exhaust-gas stream of the electrical/fuel-cell system as a function of temperature of the vehicle radiator.

6. The apparatus according to Claim 5, wherein the electrical/fuel-cell system is coupled to a battery.

7. A method of operating a device for recovering water for an electrical/fuel cell system in a vehicle having a fuel cell coupled to an electric energy accumulator, and a cooling circuit for at least one of a vehicle radiator and a vehicle air conditioning system, comprising:

cooling at least one exhaust gas stream from said fuel cell in a heat exchanger that is coupled to transfer heat to said cooling circuit;

collecting water precipitated from cooled gases in said exhaust gas stream;

operating said fuel cell when a temperature in said cooling circuit is below a preset value; and

supplying power from said electric energy accumulator when the temperature in the cooling circuit exceeds said preset value.

8. The method according to Claim 7, wherein heat supplied to the cooling circuit of the vehicle radiator from the at least

one exhaust-gas stream is used for one of preheating an engine and for auxiliary heating.

9. Apparatus for recovering water for an electrical/fuel cell system having at least one output exhaust gas stream, in a vehicle having a cooling circuit for one of a vehicle radiator and a vehicle air conditioner, said apparatus comprising:

a heat exchanger connected between said at least one of said at least one exhaust gas stream and cooling circuit, for cooling said at least one exhaust gas stream by transferring heat therefrom to said cooling circuit; and

a condensate recovery device for recovering water precipitated in said cooled exhaust gas stream.

10. The apparatus according to Claim 9, wherein the exhaust-gas stream of the electrical/fuel-cell system comprises at least one of an anode exhaust-gas stream, and a cathode exhaust-gas stream and an exhaust-gas stream from a gas generation system.

11. The apparatus according to Claim 9, wherein said at least one exhaust gas stream is interruptibly coupled in heat transfer communication with said cooling circuit, as a function of a temperature of the vehicle radiator.